CLAIMS

1. Machine for the continuous cabling/twisting and setting of yarns, comprising several treatment stations incorporating, in combination and in succession, within the same work position:

- means (1) for twisting/cabling a yarn;
- heat-setting means consisting of a heated rotary godet (2) followed by an accumulator (3) capable of cooling and relaxing the yarn in the completely free, tensionless state; and
- means (4) for winding on or winding up the yarn (5),

the said means being subjected to means for driving and guiding the yarn.

2. Machine according to Claim 1, characterized in that, at the or each treatment station, the twisting/cabling means (1), heat-setting means (2) and winding-on means (4) are mounted in combination with devices for forwarding the yarn and arrangements of the frame of the said machine, so as to delimit a small and compact space that incorporates the yarn wind-off means (6), along a yarn path of short length.

3. Machine according to either of Claims 1 and 2, characterized in that the godet (2) has configurations capable of allowing the shrinkage of the yarn to be controlled.

4. Machine according to Claim 3, characterized in that the configurations of the godet consist of a longitudinal profile defining successive zones that extend over almost the entire length of the said godet, namely an initial crimp pick-up zone (2a), a residual shrinkage zone (2b) and a setting zone (2c).

5. Machine according to Claim 4, characterized inthat the initial crimp pick-up (2a) and residual shrinkage (2b) zones consist of conical bearing surfaces, while the setting zone (2c) consists of a cylindrical bearing surface.

6. Machine according to Claim 5, characterized in that the two conical bearing surfaces (2a) and (2b) have different cone angles, the residual shrinkage zone (2b) having a smaller angle than the initial crimp pick-up zone (2a).

7. Machine according to Claim 3, characterized in that the length of the setting zone (2c) is greater than the sum of the lengths of the two other zones (2a) and (2b).

8. Machine according to Claim 4, characterized in that the initial crimp, residual shrinkage and setting zones consist of a curved profile.

9. Machine according to Claim 2, characterized in that the heated godet (2) is subjected to means capable of allowing automatic reeving of the yarn.

10. Machine according to Claim 2, characterized in that the accumulator (3) consists of a hollow straight body placed approximately vertically, the end of which, considered on the output side, is frustoconical in order to create, within the said body, a buffer zone braking the output of the said yarn by preventing it from leaving directly.

11. Machine according to Claim 10, characterized in that, at the outlet of the accumulator (3), the yarn is

subjected to the action of bars (8) capable of uncurling the yarn and giving it the tension needed for winding-on.

12. Machine according to Claim 3, characterized in that the accumulator (3) consists of a relaxation belt in which the yarn forms a reserve, the said belt being placed between the heat-setting godet (2) and the wind-up means (4), the wind-up speed being regulated so that the amount of accumulated yarn in reserve is maintained between two predetermined values, a minimum value and a maximum value.

13. Machine according to Claim 7 or 8, characterized in that the yarn (5) is deposited in the accumulator (3) through the effect of a relative movement between a guiding element and the accumulator itself.

14. Machine according to Claim 13, characterized in that the relative movement is created by a displacement of the yarn guiding element.

15. Machine according to Claim 13, characterized in that the relative movement is created by a displacement of the accumulator itself.

16. Machine according to Claims 11 to 15, characterized in that each treatment station comprises, in succession starting from the wind-off bobbin:

- a yarn twisting and/or cabling spindle (1);
- a presser/deliverer member (7) limiting the tension of the yarn and setting a level of twist downstream;
- the heated rotary godet (2);
- the cooling accumulator (3);
- the uncurling bars (8); and
- the winding-on or wind-up bobbin (4)